

Figure 1: Sample Protected Storage Grid deployment

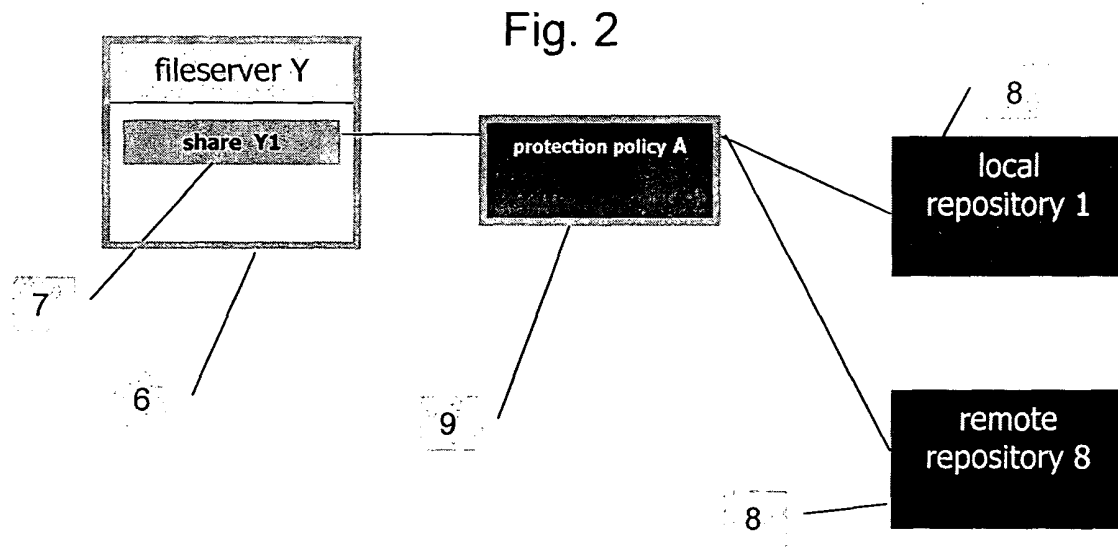


Figure 2: protection policy

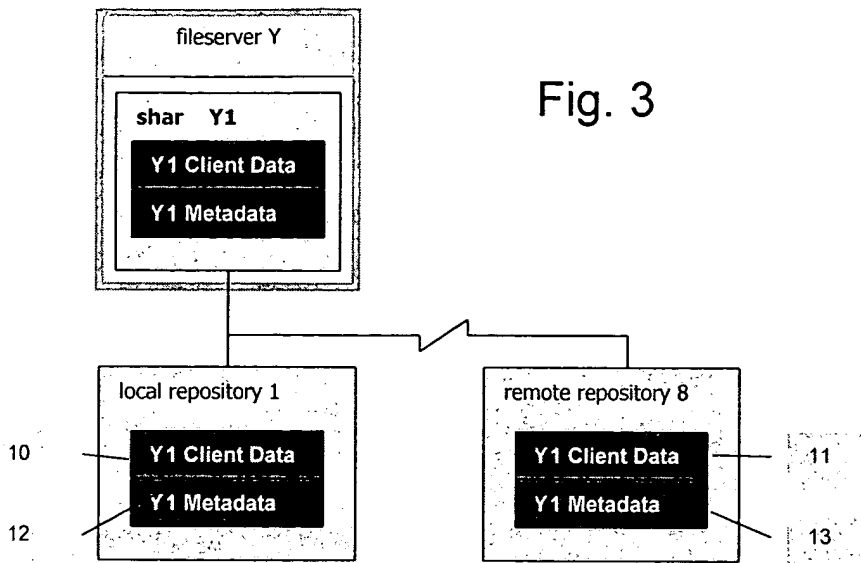


Figure 3: Fileserver Recovery - Before Recovery

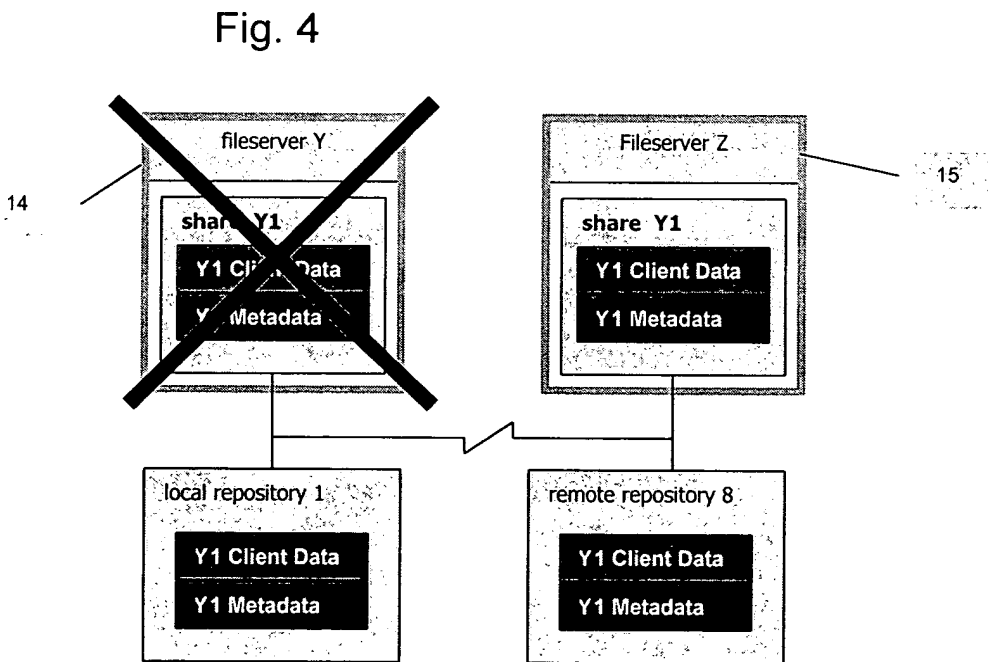


Figure 4: Fileserver Recovery - After Recovery

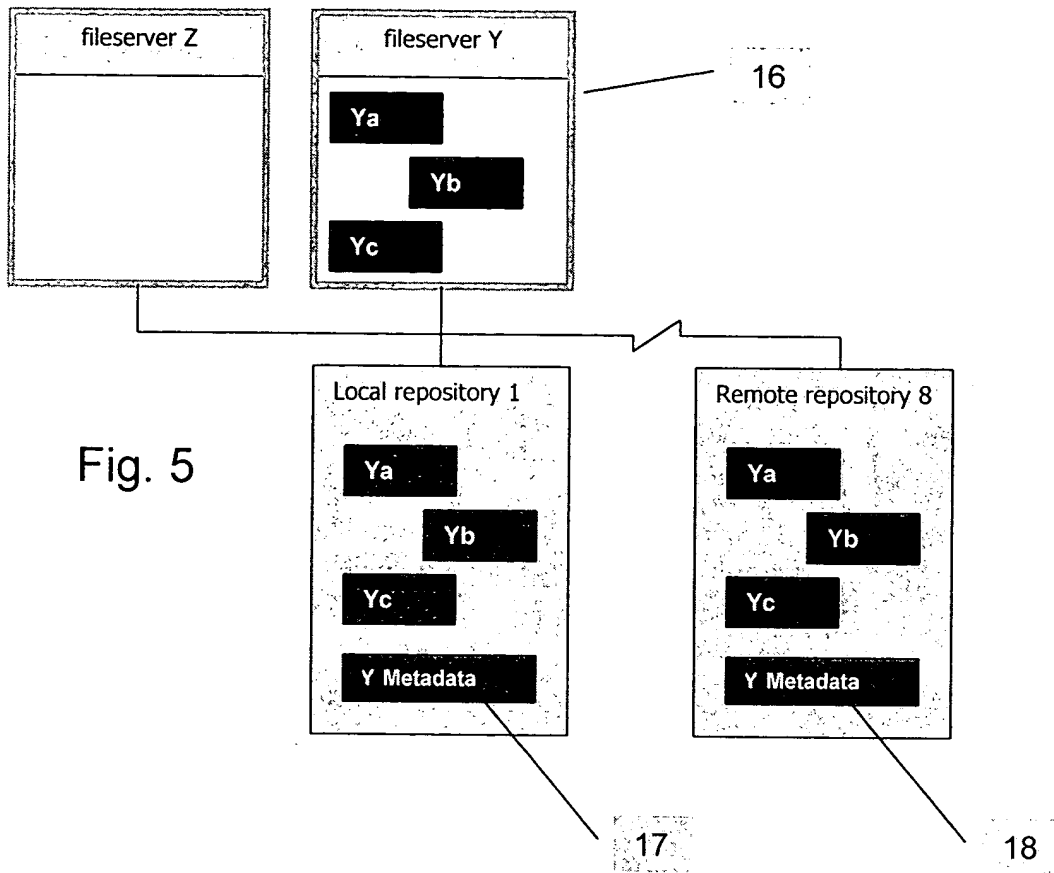


Figure 5: Share Migration - before Migration

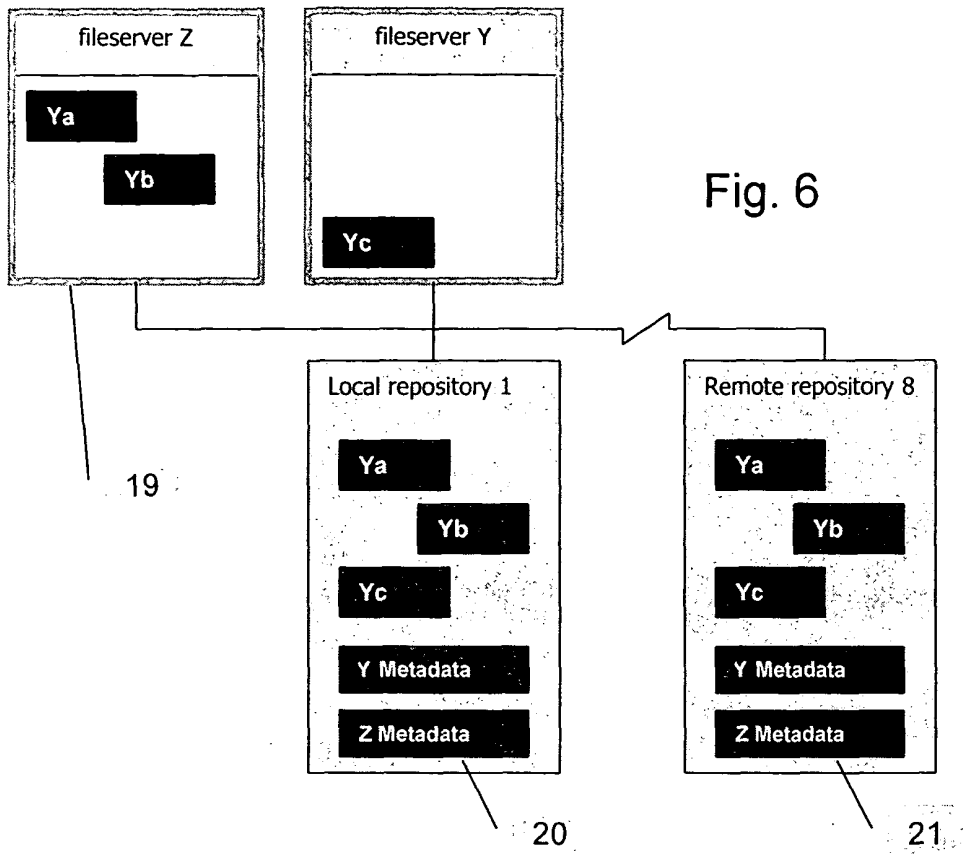


Fig. 6

Figure 6: Share Migration - after Migration

The user interface for share migration is shown. It has a title bar 'Migrate Shares to another GRIDPort' and a subtitle 'Select Shares to migrate, and which GRIDPort to migrate to.' Below this is a table with the following columns: 'Migrate', 'Share Name', 'Host GRIDport', 'Target GRIDport', 'Status', and 'Tasks'.

| Migrate | Share Name | Host GRIDport | Target GRIDport | Status | Tasks |
|--------------------------|------------|---------------|-----------------|---------|-------|
| <input type="checkbox"/> | TEST1 | GPNEON | GPXEON | migrate | |
| <input type="checkbox"/> | test2 | GPNEON | GPXEON | online | |

The interface includes several labels: '22' points to the 'Migrate' column, '23' points to the 'Share Name' column, '24' points to the 'Host GRIDport' column, '25' points to the 'Target GRIDport' column, and '26' points to the 'Status' column.

Fig. 7

Figure 7: User Interface for share migration

Fig. 8

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|--------------------------|--|
| General | Policy Identification |
| CIFS Sharing | Share: GP_Marketing\marcom2 |
| NFS Sharing | Protect this share: <input checked="" type="checkbox"/> |
| FTP Sharing | Protection Policy Name: marcom2 |
| Protection Policy | Description: 2 Local, 0 Remote |
| | User Data: D135 |
| | Protection Management |
| | Backup Frequency: 1 Hour |
| | Replicas: 2 Replicas in New York/Hudson |
| | 1 Replicas in New York/3 Charles |
| | 0 Replicas in Boston |
| | Version Management |
| | Keep Version History <input checked="" type="checkbox"/> |
| | Version Compression: Delta Compression |
| | Version Compaction: <input checked="" type="checkbox"/> Keep only one daily version after 7 days |
| | <input checked="" type="checkbox"/> Keep only one weekly version after 4 weeks |
| | <input checked="" type="checkbox"/> Keep only one monthly version after 12 months |
| | <input checked="" type="checkbox"/> Keep only one version after 2 years |
| | Advanced Options Hide |
| | <input type="checkbox"/> Purge all versions of files that are deleted from this share 7 days after they are deleted. |
| | Caching Level: High |

Fig 8. The present invention's protection policy

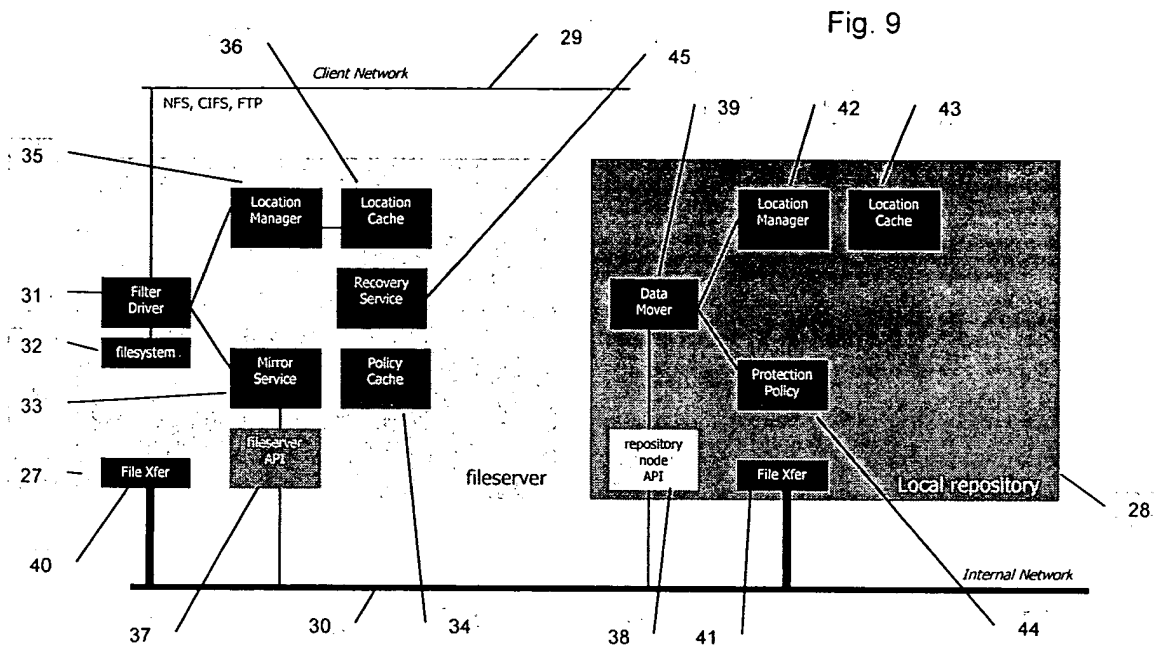


Fig 9. Apparatus and modules used to protect data to a local repository

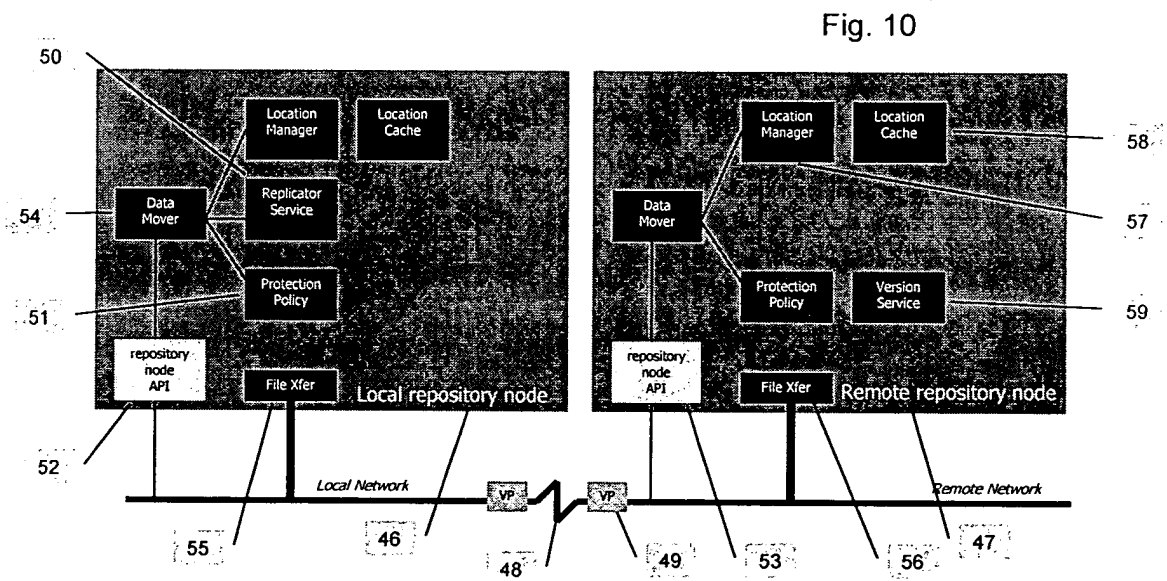


Fig 10. Inter-repository replication

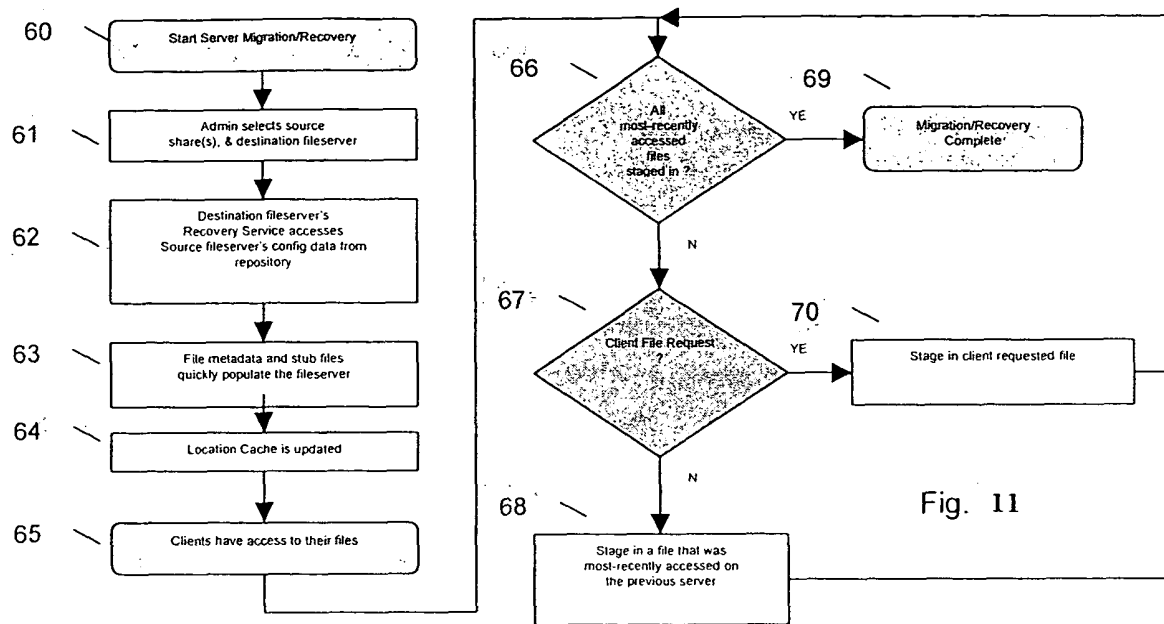


Figure 11: Two-stage Share Migration/Recovery Procedure

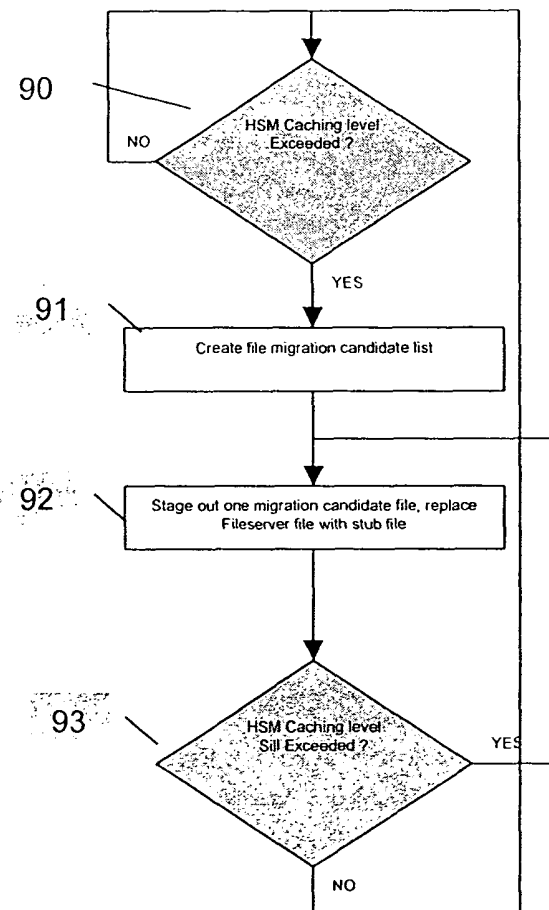


Fig. 12

Figure 12: Fileserver Caching and Stage-out Process

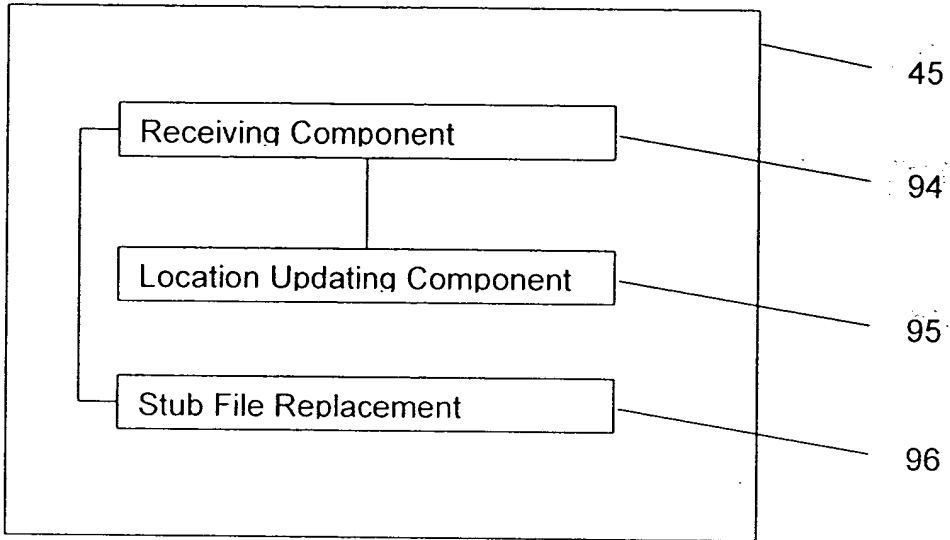


Figure 13: Recovery Service schematic